

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number  
**WO 2004/089143 A3**

(51) International Patent Classification<sup>7</sup>: **A43B 7/32**, 7/34,  
7/36, A41D 31/00, F41H 5/04, A43B 13/12

(21) International Application Number:  
PCT/IT2004/000208

(22) International Filing Date: 14 April 2004 (14.04.2004)

(25) Filing Language: Italian

(26) Publication Language: English

(30) Priority Data:  
PO2003A000005 14 April 2003 (14.04.2003) IT

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(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,

GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(ii)) for the following designations AE,  
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,  
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,  
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,  
ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD,  
SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT,  
LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF,  
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,  
TD, TG)
- as to the applicant's entitlement to claim the priority of the  
earlier application (Rule 4.17(iii)) for the following design-  
ation US
- of inventorship (Rule 4.17(iv)) for US only

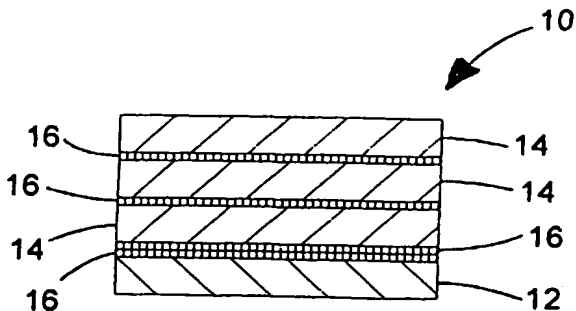
**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
18 November 2004

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: PUNCTURE RESISTANT TEXTILE STRUCTURE, ESPECIALLY FOR SHOE SOLES



(57) Abstract: A textile structure (10, 10) resistant to perfor-  
ation, specifically for shoe soles, comprises one or more lay-  
ers (12, 12) of woven fabric of aramid fibers and one or more  
layers (14, 14) of woven fabric of high tenacity non-aramid  
fibers; the layers are bonded together by means of thermoplas-  
tic film and each separate layer of fabric is treated, preferably  
in the right side, by coating with a polyester and/or acrylic  
resin enriched with powders of hard and abrasive materials,  
such as ceramic materials preferably micronized and in form  
of aluminum silicates.

WO 2004/089143 A3

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IT2004/000208

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A43B7/32 A43B7/34 A43B7/36 A41D31/00 F41H5/04  
A43B13/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 A43B A41D F41H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 5 480 706 A (PREVORSEK DUSAN C ET AL) 2 January 1996 (1996-01-02) the whole document	1 15 16
Y	WO 01/68361 A (KARALL GERHARD ;ASTRON ELASTOMERPRODUKTE GES M (AT)) 20 September 2001 (2001-09-20) page 1, line 1-4 page 6 -page 9; claims; figures	15
X A	US 5 677 029 A (PREVORSEK DUSAN C ET AL) 14 October 1997 (1997-10-14) the whole document	1,2,4, 10,14 15,16
A	US 5 880 042 A (FELS ACHIM G ET AL) 9 March 1999 (1999-03-09) column 5, line 10-20	1,15,16
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☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

9 September 2004

Date of mailing of the international search report

20/09/2004

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IT2004/000208

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 01/51263 A (SPECTRUM MEDSYSTEMS INC)  19 July 2001 (2001-07-19)  the whole document</p> <p>-----</p>	1;15,16

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5480706	A	02-01-1996	NONE	
WO 0168361	A	20-09-2001	AT 408918 B WO 0168361 A1 AT 4172000 A AT 246996 T AU 3899801 A CA 2401824 A1 DE 50100500 D1 EP 1263579 A1 ES 2204845 T3 US 2003180517 A1	25-04-2002 20-09-2001 15-08-2001 15-08-2003 24-09-2001 20-09-2001 18-09-2003 11-12-2002 01-05-2004 25-09-2003
US 5677029	A	14-10-1997	NONE	
US 5880042	A	09-03-1999	AT 163390 T AU 3162195 A CA 2194978 A1 DE 59501505 D1 WO 9603277 A1 EP 0773869 A1 ES 2115392 T3 IL 114627 A JP 10503007 T ZA 9505946 A	15-03-1998 22-02-1996 08-02-1996 02-04-1998 08-02-1996 21-05-1997 16-06-1998 12-03-1999 17-03-1998 21-02-1996
WO 0151263	A	19-07-2001	WO 0151263 A1	19-07-2001